

Grey Mold of Greenhouse Ornamentals

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Introduction

Grey mold can be a persistent and often severe disease problem for many woody and herbaceous ornamentals grown in the greenhouse during the winter months in Arkansas. In the landscape, under wet and shady conditions, grey mold can sometimes be a minor problem. Grey mold is caused by the fungus *Botrytis cinerea*. This disease is often referred to as Botrytis blight. Poinsettia, geranium, exacum and cyclamen are particularly susceptible. Plants can become infected at any point in the crop cycle from propagation to maturity, and weak or senescent plants are especially prone to developing this disease.

Symptoms

The most obvious initial symptom of grey mold is the rapid development of a gray “fuzzy” growth on flowers and other infected plant parts (**Figures 1 and 2**). The grayish growth is actually large quantities of spores produced by the fungus (**Figure 3**). Sepals and petals are



Figure 1. Flower blight of geranium



Figure 2. *Botrytis* lesions on poinsettia bracts



Figure 3. Spore mass on poinsettia stem

often the first portions of the flower to show symptoms. Young twig tips may also develop a blighted appearance. In some instances, larger twig cankers may develop as a result of infection originating from a lateral or side branch (**Figure 4**, page 2). These stem cankers may girdle the stem causing the entire plant to collapse and die. Stem lesions develop a sunken appearance with small cracks at the margins. The disease can also cause damping-off symptoms, wilt and leaf spots (**Figure 5**, page 2). The fungus is also capable of producing soft rot-like symptoms on bulbs and corms of various ornamentals.

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Figure 4. Stem canker on poinsettia



Figure 5. Leaf spot symptom on geranium

Disease Cycle

The grey mold fungus is ubiquitous in the greenhouse. Microscopic spores can routinely be detected from plant material and air currents. Spores may germinate on plant surfaces in the presence of high relative humidity or standing water on plant surfaces and can be produced within a wide range of temperatures in the greenhouse. The fungus can penetrate the plant directly or enter through natural plant openings and wounds that may be created by taking cuttings or stripping leaves from a plant.

Spores can be dispersed readily by splashing water or air currents. The fungus can survive long-term as hard resting bodies called sclerotia. These structures can form in or on diseased tissues and persist in the soil for long periods.

Management

No grey mold-resistant varieties are available for disease control. The ability of this fungus to live on dead plant material makes disease management a real challenge for the grower. Environmental management in the greenhouse can minimize leaf wetness by maintaining heating and cooling cycles that avoid condensation on the plant surfaces. Good cross ventilation provided by large fans and proper plant spacing will also help keep stems and leaves dry. Since overhead irrigation can contribute to disease spread and severity, growers should adjust their watering schedules in such a manner as to reduce the time that leaves remain wet. Early morning rather than afternoon watering schedules will help reduce leaf wetness periods. During winter months, growers should provide good ventilation as well as adequate heat at sunset to drive the moist air out of the greenhouse. This will help reduce infection opportunities.

Good sanitation practices are very important in grey mold management. All weak and diseased plants should be promptly removed from the greenhouse. Regular scouting of the crop in the greenhouse is necessary, especially during favorable periods when disease outbreaks are expected.

Fungicide applications in conjunction with cultural practices may be necessary to prevent or reduce disease severity. Fungicide choices for grey mold control include those that contain chlorothalonil, myclobutanil, fludioxonil or fenhexamid. In order to minimize the possibility of fungicide resistance developing, growers should alternate fungicides with different modes of action. Always read and follow label instructions for proper application rates and intervals.

A laboratory evaluation by the Plant Health Clinic may be necessary to diagnose grey mold in the greenhouse. If you need additional information about this and other plant diseases, contact your local county Extension office.

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